

## REMARKS

### 35 U.S. C. 112 Rejection

Claims 1, 4-7, 16, 19-21 and 38 were rejected under 35 U.S.C. 112, first paragraph as failing to comply with the written description requirement. The rejection under 35 U.S.C. 112, first paragraph, is respectfully traversed. Applicant believes that after reading the explanation below, the Examiner would agree that the present application is in condition for allowance of which prompt and favorable action is respectfully requested.

The Office Action, page 2, states "Claim 1 recites 'feeding a replica of the entire modulation symbol sequence to each of a plurality of orthogonal sequence covers.' However, the specification, as filed does not provide support for such limitation as claimed. The specification, at paragraph 0044 clearly teaches that a portion of the modulation symbol sequence is fed to each Walsh covers. That is a separate modulation symbol sequence is simultaneously fed to each Walsh covers." *Emphasis from the Office Action is included.*

The specification describes at least two examples. The example cited by the Examiner is not the example being claimed in the rejected claims. Paragraph 0044 and corresponding Figure 2 disclose the second example where as stated by the Examiner, "a portion of the modulation symbol sequence is fed to each Walsh covers."

On the other hand, paragraph 0031 and corresponding Figure 1 disclose a first example which shows "feeding a replica of the entire modulation symbol sequence to

each of a plurality of orthogonal sequence covers” as recited in independent claim 1 and as similarly recited in independent claims 16 and 38.

“As shown in FIG. 1, the modulation symbol sequence from QAM block 104 is fed to each of Walsh covers 110, 112, 114, and 116. Walsh cover 110 is labeled “Walsh 1;” Walsh cover 112 is labeled “Walsh 2;” Walsh cover 114 is labeled “Walsh 3;” and Walsh cover 116 is labeled “Walsh 4.” Each of Walsh covers 110, 112, 114, and 116 is labeled differently to indicate that a distinct Walsh function is used by each Walsh cover to achieve orthogonality of the four outputs of Walsh covers 110, 112, 114, and 116.” *Emphasis added.*

Furthermore, paragraph 0044 discloses the differences between the two examples (paragraph 0031 with corresponding Figure 1 and paragraph 0044 with corresponding Figure 2).

“As shown in FIG. 2, a portion of the modulation symbol sequence from QAM block 204 is fed to each of Walsh covers 210, 212, 214, and 216 in turn, by time demultiplexing the modulation symbol sequence. That is, a separate modulation symbol sequence is simultaneously fed to each of Walsh covers 210, 212, 214, and 216. Because the capacity of the communication channel is still the same as for the example of FIG. 1, each separate Walsh cover can still input spread sequences to the communication channel at the same rate. To compensate for the increased amount of information being fed to the communication channel, the output rate of trellis code block 202 and QAM block 204 is increased, or “speeds up,” by a factor of four to feed each separate Walsh cover its distinct modulation symbol sequence. Thus, the maximum information throughput rate in the example of FIG. 2 is increased by a factor of four over that in the example of FIG. 1. There is a corresponding loss, however, of diversity in the example of FIG. 2 compared to the example of FIG. 1 where four replicas of the modulation symbol sequence are simultaneously transmitted over the communication channel. In other words, some of the increased reliability in the example of FIG. 1 is traded for increased information throughput, or data rate, in the example of FIG. 2.” *Emphasis added.*

Thus, as illustrated above, paragraph 0031 and corresponding Figure 1 fully support the claim element of “feeding a replica of the entire modulation symbol sequence to each of a plurality of orthogonal sequence covers” as recited in independent claim 1 and as similarly recited in independent claims 16 and 38. With respect to the dependent claims 4-7 and 19-21, which respectively depend from independent claims 1 and 16, addressed above, these dependent claims are believed to be allowable based on their dependencies, as well as on their merits.

### **CONCLUSION**

In view of the explanations and the showing of specification support for the claim elements cited in the Office Action, Applicant respectfully requests that the 35 U.S.C. 112 rejection be withdrawn accordingly.

### **ALLOWABLE SUBJECT MATTER**

Applicant thanks the Examiner for indicating the allowability of claims 8-11, 13-15, 23-26 and 28-29.

### **REQUEST FOR ALLOWANCE**

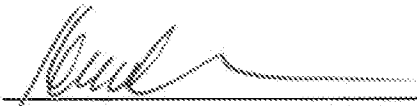
In view of the foregoing, Applicant submits that all pending claims in the application are patentable. Accordingly, reconsideration and allowance of this application are earnestly solicited. Applicant does not believe that any fees are due regarding this amendment. However, if any fees are required, please charge Deposit

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Account No. 17-0026. Applicant encourages the Examiner to telephone the Applicant's attorney should any issues remain.

Respectfully submitted,

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